

#5

FIG. 1A

cagaaagaga	cctatatgat	caaatacaga	ac	atg	atc	ttc	ctc	ctg	cta	atg							53
				Met	Ile	Phe	Leu	Leu	Leu	Met							
				1				5									
ttg	agc	ctg	gaa	ttg	cag	ctt	cac	cag	ata	gca	gct	tta	ttc	aca	gtg		101
Leu	Ser	Leu	Glu	Leu	Gln	Leu	His	Gln	Ile	Ala	Ala	Leu	Phe	Thr	Val		
		10					15						20				
aca	gtc	cct	aag	gaa	ctg	tac	ata	ata	gag	cat	ggc	agc	aat	gtg	acc		149
Thr	Val	Pro	Lys	Glu	Leu	Tyr	Ile	Ile	Glu	His	Gly	Ser	Asn	Val	Thr		
		25					30				35						
ctg	gaa	tgc	aac	ttt	gac	act	gga	agt	cat	gtg	aac	ctt	gga	gca	ata		197
Leu	Glu	Cys	Asn	Phe	Asp	Thr	Gly	Ser	His	Val	Asn	Leu	Gly	Ala	Ile		
	40				45					50					55		
aca	gcc	agt	ttg	caa	aag	gtg	gaa	aat	gat	aca	tcc	cca	cac	cgt	gaa		245
Thr	Ala	Ser	Leu	Gln	Lys	Val	Glu	Asn	Asp	Thr	Ser	Pro	His	Arg	Glu		
				60					65					70			
aga	gcc	act	ttg	ctg	gag	gag	cag	ctg	ccc	cta	ggg	aag	gcc	tcg	ttc		293
Arg	Ala	Thr	Leu	Leu	Glu	Glu	Gln	Leu	Pro	Leu	Gly	Lys	Ala	Ser	Phe		
			75					80					85				
cac	ata	cct	caa	gtc	caa	gtg	agg	gac	gaa	gga	cag	tac	caa	tgc	ata		341
His	Ile	Pro	Gln	Val	Gln	Val	Arg	Asp	Glu	Gly	Gln	Tyr	Gln	Cys	Ile		
		90					95					100					
atc	atc	tat	ggg	gtc	gcc	tgg	gac	tac	aag	tac	ctg	act	ctg	aaa	gtc		389
Ile	Ile	Tyr	Gly	Val	Ala	Trp	Asp	Tyr	Lys	Tyr	Leu	Thr	Leu	Lys	Val		
		105				110					115						
aaa	gct	tcc	tac	agg	aaa	ata	aac	act	cac	atc	cta	aag	gtt	cca	gaa		437
Lys	Ala	Ser	Tyr	Arg	Lys	Ile	Asn	Thr	His	Ile	Leu	Lys	Val	Pro	Glu		
	120				125					130					135		
aca	gat	gag	gta	gag	ctc	acc	tgc	cag	gct	aca	ggt	tat	cct	ctg	gca		485
Thr	Asp	Glu	Val	Glu	Leu	Thr	Cys	Gln	Ala	Thr	Gly	Tyr	Pro	Leu	Ala		
				140					145					150			
gaa	gta	tcc	tgg	cca	aac	gtc	agc	gtt	cct	gcc	aac	acc	agc	cac	tcc		533
Glu	Val	Ser	Trp	Pro	Asn	Val	Ser	Val	Pro	Ala	Asn	Thr	Ser	His	Ser		
			155					160					165				
agg	acc	cct	gaa	ggc	ctc	tac	cag	gtc	acc	agt	gtt	ctg	cgc	cta	aag		581
Arg	Thr	Pro	Glu	Gly	Leu	Tyr	Gln	Val	Thr	Ser	Val	Leu	Arg	Leu	Lys		
		170					175					180					
cca	ccc	cct	ggc	aga	aac	ttc	agc	tgt	gtg	ttc	tgg	aat	act	cac	gtg		629
Pro	Pro	Pro	Gly	Arg	Asn	Phe	Ser	Cys	Val	Phe	Trp	Asn	Thr	His	Val		
		185				190					195						

FIG. 1A

# FIG. 1B

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agg gaa ctt act ttg gcc agc att gac ctt caa agt cag atg gaa ccc 677
Arg Glu Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser Gln Met Glu Pro
200                205                210                215

agg acc cat cca act tgg ctg ctt cac att ttc atc ccc tcc tgc atc 725
Arg Thr His Pro Thr Trp Leu Leu His Ile Phe Ile Pro Ser Cys Ile
                220                225                230

att gct ttc att ttc ata gcc aca gtg ata gcc cta aga aaa caa ctc 773
Ile Ala Phe Ile Phe Ile Ala Thr Val Ile Ala Leu Arg Lys Gln Leu
                235                240                245

tgt caa aag ctg tat tct tca aaa gac aca aca aaa aga cct gtc acc 821
Cys Gln Lys Leu Tyr Ser Ser Lys Asp Thr Thr Lys Arg Pro Val Thr
                250                255                260

aca aca aag agg gaa gtg aac agt gct atc tga acctgtgggc ttgggagcca 874
Thr Thr Lys Arg Glu Val Asn Ser Ala Ile
                265                270

gggtgacctg atatgacatc taaagaagct totggactct gaacaagaat tcggtggcct 934
gcagagcttg ccatttgcac ttttcaaagc cctttggatg acccagcact ttaatctgaa 994
acctgcaaca agactagcca acacctggcc atgaaacttg ccccttcact gatctggact 1054
cacctctgga gcctatggct ttaagcaagc actactgcac ttacagaat taacctactg 1114
gatcctggac ccacagaatt ccttcaggat ccttcttgct gccagactga aagcaaaagg 1174
aattatttcc cctcaagttt tctaagtgat ttcca 1209

```

[illegible]

FIG. 2B

Cd80_Human	280	300	320	340	360	288
Cd86_Human	280	300	320	340	360	306
GA16817596	280	300	320	340	360	273
B7-H1_Huma	280	300	320	340	360	290
B7rp-1_Hum	280	300	320	340	360	302
Pro352_Hum	280	300	320	340	360	307
Btf1_Human	280	300	320	340	360	276
Btsf2a2_Hu	280	300	320	340	360	318
Btf4_Human	280	300	320	340	360	263
Btn3a3_Hum	280	300	320	340	360	313
Btn_Human	280	300	320	340	360	294
Cd80_Human	380	400	420	440	460	-
Cd86_Human	380	400	420	440	460	323
GA16817596	380	400	420	440	460	-
B7-H1_Huma	380	400	420	440	460	-
B7rp-1_Hum	380	400	420	440	460	316
Pro352_Hum	380	400	420	440	460	-
Btf1_Human	380	400	420	440	460	392
Btsf2a2_Hu	380	400	420	440	460	-
Btf4_Human	380	400	420	440	460	405
Btn3a3_Hum	380	400	420	440	460	368
Btn_Human	380	400	420	440	460	-
Cd80_Human	480	500	520	540	-	-
Cd86_Human	480	500	520	540	-	-
GA16817596	480	500	520	540	-	-
B7-H1_Huma	480	500	520	540	-	-
B7rp-1_Hum	480	500	520	540	-	-
Pro352_Hum	480	500	520	540	-	-
Btf1_Human	480	500	520	540	-	482
Btsf2a2_Hu	480	500	520	540	-	-
Btf4_Human	480	500	520	540	-	497
Btn3a3_Hum	480	500	520	540	-	458
Btn_Human	480	500	520	540	-	-

FIG. 2C

Cd80_Human :	560	*	580	*	600	*	620	*	...	-
Cd86_Human :									...	-
GA16817596 :									...	-
B7-H1_Huma :									...	-
B7rp-1_Hum :									...	-
Pro352_Hum :									...	-
Btfl_Human :									...	-
Btsf2a2_Hu :									...	523
Btf4_Human :									...	-
Btn3a3_Hum :									...	584
Btn_Human :									...	526

FRR.GSDDSPFICALTGASGVMVPEEGLKLRVGIHQSL  
 VRR.LTLEPTATICEIPKEVESSPDPLVPDHSLETPPLPGLANESGEPQAEVTSLLLPAHPGAEVSPSATTNQNHKLQARTEALY  
 HICWSSGKKPTICPIADGPERVTVIANAAQDLSKEIPLSPMGEESAPRDADTLHSKLIPTQPSQGAP

[illegible]

ataagaagct gaattaaggt gatggcagtg ggggtggaaga aaggagagcc accatgcaaa 60  
aagtatccag gagggagaat taacaggact aggggatggg ccatatttgc aagatgagaa 120  
atgcagaggt ctaagattct agctnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 180  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 240  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nngcataaac 300  
catattttcc ccagaggagg attagtagga aaggaagctg ctggttgga agtatcttta 360  
tagcagtgtc tgttcctcgg ttigtctcaag gggacagtgt gccaggaaaag tccccgtgga 420  
agggcaagga agaaggggaa gttaaagcca gtggcaggtg atccaagaat cttttctggt 480  
gctagagcta tgttacatgc tgtcctttca tgctctaaaa ataagagtgc tggcaagtgc 540  
caggcctggt ggtgcagctt aagatgatac ctttcttgga tatatatgca tctgaataag 600  
gaaggctatc ttctggtcaa gctaagggtat gccatgagca tttccctgtg gaaagcactt 660  
aattctgttc ccagttgtta cctgctgtaa gatctccctt tctaaaataa aaacaagaat 720  
acagctcact gaggacctta catttccctc tagctactga ctcatctctc ttctcctttt 780  
tatagcactc ttcttgagag agttgcctat atttggtgcc acatctttac ccattctctt 840  
ttgaacctat tcaagctttc atctgtacaa aactcaactga tactgtgctt gtcaggatca 900  
tccatgacct ccatactgct aaatgcaact ctcaagagta tttggctcta ctgatcactc 960  
ctttgtagca ctgtgtttta aaatataggt tttattatta tttagggtatg gtgaggccaa 1020  
tatatcagga aatgactgtc gttgaaaaaa gtatgttgta ctacagatc ccaagagaag 1080  
gggggcacac catgccacaa agggccacat ggggaagcac cagggtcagc caggaggtgg 1140  
gtgggggggtg cgcaagatct ttattgtggt ttcaacagga agaaatgggt gaagcagggt 1200  
gagtggattt aggattagct gatataaata atttcagcag gctctggggc ataggggctg 1260  
tccctagtct tctggtactt ggccctgggg tgattaaggc agttgcatag tgttggaat 1320  
gtgaaagccc ccaataaatg aggcagttgt gggtatgggc tctgaaatgg gttggtttgc 1380  
atttgaaagg tgtgctcatg ggcaagtgtt ttactctctc ttagagggtta gaattggcta 1440  
accctgggag cggcagtcct ttcagggtca gcaaggcccc aggtgtcaaa gcatcagaat 1500  
acagaaaata aaatgcatgg ataatacaca ctgccatttg cttttgtacc ctctctttca 1560  
atcttctctg ctggtgaccg ctcttcacaa agatctataa atgttggaat accccatgtc 1620

FIG. 3B

tcagtccttg ggcactctct ttcctatctc tctgtaggtg atgtaatgca gatatccatg 1680  
acttttaaact ttttaacactt ctgcattgat gactcctaaa tttacatctc taccccaact 1740  
gcctactaaa cacctccact tggctatcta ataggcattt caaaccaaact ctacaacaaa 1800  
cgtaactctt tttccctctc cttaatttgc ttctcccccga gccttctcca ttttaataaa 1860  
cagcatctcc attgccttag tgactcaagc cccaaactta ggaattttcc cagatttccc 1920  
tctttttctc aaactatata tctagcctgt cagcagttcc cttcaggtct tttttcnnnn 1980  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2040  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2100  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2160  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2220  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2280  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2340  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2400  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2460  
ctaannnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2520  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnngctc 2580  
catttatatt tannnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2640  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2700  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2760  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2820  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2880  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 2940  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3000  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3060  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3120  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3180  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3240

FIG. 3C

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3300  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3360  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn ttgtgtttta 3420  
 aatatatata cacacttaga cacatataac cctctttcgt atatcaatta tactttaata 3480  
 aagctgttgn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnctcgcca 3540  
 acagaccact tctcaccct actagccct ctactetaag ctatcagcat ttctgcaaac 3600  
 acattcctaa cggatctcac tgcttgtaat cttgccagca acctctcct ctcagcaata 3660  
 gtctattgcc tacaccaaag cttagtgtc tcttaatgat gtaaagagg ttctatcatt 3720  
 ctctgaccc aaacctcca ctgcttttca tcacactcag agcagctctg ctgttgccctg 3780  
 atttagatgt atggctcaa cagatttccc ctgaagaaat gattccatgg ctgataaaag 3840  
 ttggaaagcc tctcagttt cagaccatta tcagattagc tgtgtgctct gtccctttcc 3900  
 tcaaccataa gaagtccatg gataaagaaa gcttcagagt aaaggagaaa gcatgggagg 3960  
 tacagcagga ccaaggtggg gcattcgag ccccccacct catcagagcc agttccctac 4020  
 tctccctgtc taaacctctt agtaagaggt agttcaagag aggggcaaac tcaattccag 4080  
 cactcaaaag cacttgacta ctttgctcag tcaactagca agtatttatt gagaatgtag 4140  
 ctctgttcta tggagtctta ttttcaagtg tcagactccc agacatccag tccaggtaaa 4200  
 gaagatggtg tccattattc atttgacaaa caaagttggg gttcaagggc cagctattga 4260  
 aaaaagctat ggaaagcttc atgagacgtg caggtaactg ccaatatgtg tggttcacia 4320  
 ggactggttc atattcagaa acggccatta gaaaaggaag aagaacttct catttggtt 4380  
 tataaagagt gtcttgttta ctcttaattt atatcttctc ttctccagga aatcaacct 4440  
 taacttctcc tccagctcc actctaccat ggtctgtcac cttcccaaaa tgatttggtta 4500  
 ttccctgtt ttcaaaagtg aacaaagaac caaagacca gcaaagtttc acaaggccct 4560  
 gagactttca attgtctatt tcagatcaaa tacagaac atg atc ttc ctc ctg cta 4616  
 Met Ile Phe Leu Leu Leu 6  
 atg ttg agc ctg gaa ttg cag ctt cac cag ata gca ggtaagaaag 4662  
 Met Leu Ser Leu Glu Leu Gln Leu His Gln Ile Ala 18  
 gacaaagga gaggttaag aaagaagagc aggtggtggt tcctagccaa agccaaaaat 4722  
 gagaatgtg ccctcaggct gagggctttc tttgagagga cgtatgattt ctgggctatt 4782

FIG. 3C



# FIG. 3D

ccaagcacca caaaaaaaaa aagagtcccc atggtggctt atacatgcc aatgccttat 4842  
ctgacagaaa cggtgactga gaattattgt ccatctattc ccactatcca gtgagggtaa 4902  
tgacaagaag acaggatcac tcagaccatg taaatctaaa ctgatacaag agggcagggg 4962  
ttgagttccc ttaaagggtga gatgccaaag agctgtcccc ttcctttctg gcagggagag 5022  
taaggagaca atggccaggg aacaccgtta ctctaaagat aatgtcttga agacattctg 5082  
catattatta gttgtttctg tgagtttctt ttttgaaaag caacaatagc agccgttggt 5142  
cattcatacc ttaatgtggt ttactgagtc ttcctaaaac ccaaataaac aatgaacctt 5202  
aaggctatcc ctttgactt gaagaaagga cttctattgg aggatgaggg tgagcagaaa 5262  
gaaaagcagt ttcacagttg gttgttctcc tggggaagg agttcagacc attcgagggt 5322  
gtagttagaa ccatgagtg actattttgg atgaacacca ggagctaaga gagtaacata 5382  
gaggtgtgga cagaggatta agtcctcaag acaatagccc cagcccatg ggaaatcatc 5442  
tttctgctca tgattgagaa ataatggctc ccttggcact tgataacctt tcgaagagct 5502  
ttctctccc tactagctgg ttccagatca ctcttcccc agtcacattc ctctactca 5562  
cttgagctgc ccagcctggt ctggcactag agacatgcac ttggggccct cctcaaagga 5622  
agaccctgag atattctgct tacttctact ctgctcctgc ctgcagggcc agctaaagga 5682  
acttttcatg ttttctttgc aaggaacctt gctggtctgg catttttagag acaagcaaaa 5742  
ggggcaataa cttccttgct aaaaaacagc ttcaagtttc catagagtga taagggaat 5802  
gagggccaaa agacactgtt cccatcctg tggcaggact gggggcttca ggagaaaact 5862  
tggggaatgt gtaacctctg tgggtttgta gcttaaaaac actgagatcc tgggttttct 5922  
gtctttgttt tttgcctttt ctcttaggaa aggagtgagc tagggtgaca aggggcaaca 5982  
ttttttatcc ctcatgggt cttctacag aggaaggatc ttttcttcta agataatcag 6042  
cacaagacaa tgaagatagg cactagctcc cagttaggta tactaatggg gcaaaaggaa 6102  
gagcatttnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6162  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnattttgca ggtgaggga ctagaactca 6222  
gaaaaggtac ttaatttccc caagattaca tagttattag gtgacaccg caagatttca 6282  
acaaagctaa tgtcctttct actttactgt gctaccatga tgatggtaat caaaaatggc 6342  
agacaacca taaatcttcc aactttggaa taggtttttg cactgaagtc tgaatatgga 6402

FIG. 3D

FIG. 3E

tacgtattga atgtttatc tggatattca cagaatcaaa aaatatgtgt aatgaattat 6462  
gttgctgaat taactgaaag gaaagtaaaa atgtagcgct ttctcatttt cttcacgaat 6522  
ttggaattct tttctgcttt ccactatgca gataacatca gttcagacaa atattaaata 6582  
cctacctaaa ttagaatgcc ttctctcat gggatttttt taaaatcttg tcatttcattg 6642  
tctctttaat taaagagttt tgatttcaga ggagggtacc tgcaaaagaa aacaacaaaa 6702  
aaactaaagg atctgagaaa taattagtgt ttacttctgg ggaggggagg aggtctggga 6762  
tgggggtaaa aaggatagtc ttatctatta tgtatattca ggtttttgtt ttttacaaga 6822  
agcatgtatt agnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnca agaaatttct 6882  
catataaaaa tatgaaagta atcagactgc aacactcagt gcctgagaca gagctacagc 6942  
tatcagggtg tccagacaga cagaagatta cattttcttc cttgctcctt gtacagcccc 7002  
agacctgcat gcttcattga aaagaaaaga agatacctga attaaatcaa tgtgatgctt 7062  
agtaccctat cagtgcacat ttcttttcnn nnnnnnnnnn nnnnnnnnnn cacttnnnnn 7122  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7182  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7242  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7302  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7362  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnca 7422  
cttatggcgg tattctcagt cattacaaat aaataaaaac aatccatatg ccctggagaa 7482  
tttgattcca ggagtaggtc tagaagaact tcaactggag aatggataga gaaatcatgg 7542  
tatatttgca gnnnnnnnnn nnnnnnnnnn nnngatagca tgtgaataaa ttaattacaa 7602  
aaacatatga ctacatctat tatttatatag catgtagata aattacaaaa acatgtaact 7662  
acatctatga atcttagagc ataattattga gnnnnnnnnn nnnnnnnnnn nnnnnnggcc 7722  
agaagataac acatagcaca atgtcctttt cataaataaa tatattgctt aagcatacct 7782  
tatatataga agataaagct taaaaagtaa agaagag 7819

FIG. 4

attatcactt atgagggtgn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 60  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 120  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnctgcc 180  
ctttattttt tcatgaaaga aattgctgaa gaggactaaa agaagtttta gtaagcattc 240  
aataaatgta tgttctttat agtttccaaa tcagcaaata tagacatcct gcatttttaa 300  
ggagatttat atattttatt ggacatgctg taattttatt aaccacttcc ctgttggtag 360  
acattatttc cattttcttc tgctagatta atgcttgaaa aaaatgtgtg cctcctaaag 420  
actgtgatga aagttgcctc tgaataaaac tcaaacaaat cattaatcat taactctttc 480  
cttacttgta tgctctttgg atgctctact gtgttatcta taaaataaag tttgaagtga 540  
aaaattaggg taaaacattt tatatcattt ttaaaggata tatacatgga tgtacttaca 600  
tatgcatggt taaatttata taccataaca tttatttctt tttttaaaaa 650

FIG. 4

FIG. 5A

tatatttgtt ttttttctta catttttatt tcaaaatcta aggacatctt ataaccaga 60  
aatatttttt ataccttgtc atgtcttaga ggaaagagcc accccagtct ttttctattg 120  
atgtttttct tctctcttcg tactccagag gtagatgaaa accagagggc cacaatgacc 180  
atggtgatgc ctgaggcat tctggggcac agacctcagc ctaggttact ccacttcgcc 240  
tatctttaga tccaaaacta ccctgctgac tgctgagata aacaaaggag aataatcagg 300  
ttggggaaag gatttctatg cgaagacatg tctccatgca gtcctcctac actgagcaga 360  
gcatgagtca ggtgcttaga gcaggatttt gtccataacc aggaacttca gagttttctg 420  
aagaatgtgg ctatgtaaag cccccccca cccaccctt acttctcaag tacattacgt 480  
ggcaagtctg aaaaaactta cacttctgtt gttaaagtgt ggggataaaa tataaactta 540  
gtttcaagag gaagctatct tgggaggtaa tgcaaataat tcgttgtgtg tttcctgaat 600  
aagtgcagag tgctgactac cattgatgct tcattgcaat aaaatgcaaa gtcccccaa 660  
gaatttttga aatgcatcaa gctaggtgtt ctaatctagc aaaaggacct gcatacatga 720  
atttttcatg cttttgccaa gtcttttgcc ctttagttta gttaagggcc ccacatgaat 780  
ggaaagcctg tgttgtcagc ttaattttgt agttgtggaa accttccagt tttctccttt 840  
gtctaatacc ttcaggagtt caatcctagg ttgaagctta atttaataac catgtggcat 900  
gtaaagtaga aaacaaaaca tcttttcctt agcatacagc aaaaaaaaaa aaaaaactca 960  
ctcatggatg tagtgtacac atgccagtgg atatatagtc ataactgcag tcattggtag 1020  
cacagaaata aatgtgcatt gaagacacag agannnnnnn nnnnnnnnnn nnnnnnnnnn 1080  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1140  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnngg 1200  
gctagcccag tgtctgactt actgtgttta agaaatatca actattacgc tacttcccag 1260  
tgacagtcca aatgcagacc agtgttataa ctctacnnnn nnnnnnnnnn nnnnnnnnnn 1320  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1380  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn aggcaaggtg 1440  
gtaaaagacg cttgcacgtg caaatgttac tttgtgtaac tnnnnnnnnn nnnnnnnnnn 1500  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1560  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1620

FIG. 5A

FIG. 5B

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnct tagtgaatct aatttgcagc 1680  
 tgggcttgag aaaaaacctc ttcatagaat tgtttgcac agtgtcttga ttgcctctgt 1740  
 aacttacaat aagcaagaat gtttcaggat ttcaaaaatc tattgcattg cctaaacctc 1800  
 ttatttttga tggagtaatc aagctcaaag ttgcatgtc ttagaaactt tacttggggc 1860  
 aaaattagac caagtaacaa ttaatcttct aggtattctg agctattcag acatatgatt 1920  
 catgtttgct aattgctctt ttctcttgta aatattagct gaaaaatgtc acctgtctga 1980  
 caagtagcat attttatgcc tatcactcct ggcacgcatt cttacaaggc agacaggaaa 2040  
 aataggaaga aaatggactt ttatcaaagg ccagggcagt aaagagggga gttctgctgt 2100  
 aagctaaggg gagttccaga ggaagttata ggcgttcctt ttcttatgac aagaaagcat 2160  
 agtgcagtaa ataaatttgc taaatagatt caacagtctc taccctaaagt catctattta 2220  
 attcttggtt ttatgcagac tcagcaacta accttccttg taagcccat tttcttcctt 2280  
 gtttcctggt tatcaaagt aattaaacaa gagaagtatt atagaagagt aaaagtagta 2340  
 ggtaattctt gaacttggca tatgattact acatatattga tgaatagttg aatattattc 2400  
 ttcaaggaca gattggattt ggtatcaggt ggctctgcat taagttataa gggacttaat 2460  
 aactcaagta ttaaggacg gcttccatca taaagggatc tgccottaag agggtoccat 2520  
 tatggagatt ctgaggtgag agctattcca agtgtgcagt ggattaaaat aaaagaatca 2580  
 tacaggaaat ctctttttac atgccttatt ccaggtctt tgcaacctgg cacagcaagt 2640  
 gcagatatga ttagcattgt ttacacatg tacactcacc ttatagccct gccctgtgc 2700  
 cctcctgca caaaagaatg ctgggcacac gtgaactcct ctctgtagaa aggcacatta 2760  
 atgtttctagc catgggttaa acagggatag aggcaagcca aaaatgtcgg tcatttgaaa 2820  
 taaatctcaa gtttgtgcat atcactatca agtgtgctgt gtggcaatta agaatgccaa 2880  
 tttgtgtgat cacaggcaag ttgcagtttg atgaaaggaa agcagaggtg aatatataac 2940  
 cagggtcac ctttctttct cctctctct ctttctgtca tttatttgc aagctcttaa 3000  
 ctagaacttg ctatgtgcta ggtactggat atatcaaagc aaactcagcc tggctcttgc 3060  
 cttcaaagat ttgcaggata gtgggaagaa aaacttgaat cagaggacat ctgcagtggg 3120  
 aatcattcaa gcagcagaaa acccaaaagt tacttatact gtgaaatctg atcagagaat 3180  
 ggactgtcct ggtagtaaa atatcctgga ggataaagat tggccatgca ttccacatat 3240

FIG. 5C

gaattaccac tttcccaaga attaaaacat ggtacgaaag aaaggnnnnn nnnnnnnnnn 3300  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3360  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3420  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3480  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnna aacaacttct 3540  
 ggaatagcta atgcttagaa gcagctccca aatatttgtg nnnnnnnnnn nnnnnnnnnn 3600  
 nnnnnnnnnn nnnnnnnnnn gcaagctcta ctgaacataa tttgatctaa tcttctgtga 3660  
 ttattcagaa actacttcaa gattttccta tacctccatc ataatgaata cccattcatt 3720  
 aatgatggaa gcagccta atgtgtcattt ttcacacttt attgatgtaa cactaccttt 3780  
 actagtttgg ccactcctta tgcttttttt atagaactat ttagatcaat tcaactttta 3840  
 aaaaataaag ccacataccc ctgtggtaga tgaaaaacaa gtatcatttg cactggtaaa 3900  
 tagagaatag gaagaaaaat aaatgcagtg aaaataaagc agtggtatca aatcctaccc 3960  
 agatactgtt atctaccggg aagcttcctg tttgattaaa aggaaaaata gccagtgtta 4020  
 gaggtgtgga agtctagttg aaattatatg caattgaagg attaaaatag aattgaaaag 4080  
 ggaataaatt cctctctgaa taatttaact ccctttaggc tttgattctg cctcatctaa 4140  
 aatcatctta catacttcta gtggcgtgtc cctcacattt tggtaaactc tgnnnnnnnn 4200  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4260  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4320  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4380  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnccat ttttcctttc cctttattgt 4440  
 cagaaaatag aaagcatcta cagtgggctt gtatgatgtg gtggttagaa atacctgatc 4500  
 tgattnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4560  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4620  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4680  
 nnaccatcac tggtagagag aagtgatacc tggcacaaaa atatatggat taatcaatat 4740  
 ggattgaggg aaacaaacct ggagaatagg atgtgaaggt atttaagtaa catgagctca 4800  
 gaccttgatg gtagggaagt cgaaaggaag cattttgttc ttatatgaca gatgacctgg 4860

A series of nine small, square, black-and-white photographs arranged horizontally, showing the progression of a plant's growth from a seedling to a mature plant. The first image on the left shows a small seedling with two leaves. The subsequent images show the plant growing larger, with more leaves and a more developed root system. The final image on the right shows a mature plant with a dense canopy of leaves and a well-developed root system.

aatgactgca	gggcttgggg	ggtcagggac	tggaggtggg	agaggcctct	gagagcaagc	4920
agtgtgttcc	accagaagct	cttgctgggg	tgcccagaga	ggagcaaagg	gcagtcagct	4980
gcacaggagg	gaatgtttgg	aggagagagc	cacctcagat	cagcgggtca	agaatcccac	5040
tcttgcccag	atggatgggg	caaaggagaa	aaaggattcg	ccacgggaat	gtccagataa	5100
gacaggtgcc	ttttggaaaa	tgggggtgag	atgggtctca	ggttacactt	cgtaagaact	5160
ggaatgtaaa	gtaaaggcag	acaatgacaa	aatatcttgt	tttcttttca	gct tta	5216
					Ala Leu	20
ttc aca gtg	aca gtc cct	aag gaa ctg	tac ata ata	gag cat ggc	agc	5264
Phe Thr Val	Thr Val Pro	Lys Glu Leu	Tyr Ile Ile	Glu His Gly	Ser	36
aat gtg acc	ctg gaa tgc	aac ttt gac	act gga agt	cat gtg aac	ctt	5312
Asn Val Thr	Leu Glu Cys	Asn Phe Asp	Thr Gly Ser	His Val Asn	Leu	52
gga gca ata	aca gcc agt	ttg caa aag	gtg gaa aat	gat aca tcc	cca	5360
Gly Ala Ile	Thr Ala Ser	Leu Gln Lys	Val Glu Asn	Asp Thr Ser	Pro	68
cac cgt gaa	aga gcc act	ttg ctg gag	gag cag ctg	ccc cta ggg	aag	5408
His Arg Glu	Arg Ala Thr	Leu Leu Glu	Glu Glu Gln	Leu Pro Leu	Gly Lys	84
gcc tcg ttc	cac ata cct	caa gtc caa	gtg agg gac	gaa gga cag	tac	5456
Ala Ser Phe	His Ile Pro	Gln Val Gln	Val Arg Asp	Glu Gly Gln	Tyr	100
caa tgc ata	atc atc tat	ggg gtc gcc	tgg gac tac	aag tac ctg	act	5504
Gln Cys Ile	Ile Ile Tyr	Gly Val Ala	Trp Asp Tyr	Lys Tyr Leu	Thr	116
ctg aaa gtc	aaa ggtgagt	ggt gtcaagg	act agaatcc	atg gaagctc	ctt	5556
Leu Lys Val	Lys					120
ccaacagagg	atctgcaagt	cacagaaacc	cattaaaggt	agctcaagca	aaaacaagca	5616
ggctgctttt	aaggagacag	ctatttcaga	gaaaatgaaa	gcattctgctc	ggaaataatt	5676
tttgacatct	gagtacaaag	cagccgaagt	acaagtgaaa	gggggtagga	cctataggaa	5736
taaaatggga	ctggaggaag	ccaggaaaat	tagtccctga	aatgtgggag	ggtatgaaaa	5796
ataagctttg	cctaattcac	aattctccca	tggaacatcc	ctgaattgat	tattaagata	5856
ctcttttttca	atagtttata	ccctgaatcc	agagttttta	aaacctgggt	ttgccgccca	5916
ttcatggatt	aaaatatcaa	tttagtgagt	agcaaccaga	tgcacgtttc	ccgcccttta	5976
aaaaataatg	tatagaagag	aatagacaga	gtagatcaga	cgatatcaca	gagtaggact	6036
gagtactgta	aaactaattt	ctgagggacg	tgtgtgtgtg	tgtgcgtgtt	gggtcatggt	6096
ataaattttt	tttttcttac	tttggatcat	aaaaagttac	aagtttggaa	aacactgctc	6156

# FIG. 5E

aaatgcaagn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6216  
 nnnnnnnnaga gtcccatgaa gtctatagct gtccctattc ctctggattc agggatctct 6276  
 ccactccagc acaattgaaa atctaaatat aaagagaatc ttcacactct tgtttgttct 6336  
 agaaaaggtg atttgaggaa agacatataa caactataaa aaatagattt tgcttggtca 6396  
 ttggcttatg gtctccaggc ttgaatgctc tgagataaat gatgccaata tttctctggc 6456  
 ctcttcccat cccacgcatt ggacctcaga tggctgtac tgtcttctag agggtttggtg 6516  
 ggttttgcc ccaaaaaacc attaaccttg gcagaaagtg tgtgacttta tgatctggta 6576  
 caaagaagga caaactagag ggactggaca tgaggatgaa tattgtgttc gcccttatnn 6636  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6696  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6756  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnaaa gaccctcagt 6816  
 tgttacaggg gcagtgcct cctcacacct caaccatcaa tgagtcacca ggaaagccat 6876  
 tagcctagat gtaactgttt tctatcttta ttgcatttcc tacatccagg cagcagctgg 6936  
 gaggaactct agaactga agtttgtctg agttccctta atgtaaggct gtacattctc 6996  
 aggatgcctt gatgtactcg aatatctgca accctaaatc accacctctg tttttattga 7056  
 tctctatctg aatgctgtat taatgggcca ggcttctgc ccattctctc aaactgagaa 7116  
 ctgtctctca ttctgggga ggcacctgc ctactcctta cctagatcag ggatttctca 7176  
 gttgtggaga gatttgttcc ttatagtgtt ggtcatcaaa ctgggatatt tggggattac 7236  
 aaagactttt caagggatgt atgggcacag gcagttttag gaagtgagtt cctagatcct 7296  
 catcttcccc aaatactcgt toccaaaatt gacgagcctg acaatgtgca tgccaggcaa 7356  
 ggctcttggg gttcccctaa aacacttctt cttttaagcc taccactcac tcatcatgaa 7416  
 tatagtccat tgcccaggg tgtaaaaccc tctatagtgt taaataaaag aatgattggg 7476  
 aacattgaca cctgatggaa ctgttatgac taaaaaccct tttgcaaata atgtggtatc 7536  
 taattttctg ctttcaacaa aattgaagga ggcccttata aagttaataa ctgataatca 7596  
 aaaatgagta atttttgcca tgtaaatcag gtcaaagaat gaaatggcat tgctgtaacg 7656  
 aaactgcttc cattcccatt gatttactca tacgaacaag attccttagc ctttataagc 7716  
 tacaaaaaaa tgaaaaatag aaatagaatt gaggctgaat tctattatat aaaatcattc 7776



# FIG. 5F

caaccatgtc atatggttct tcggattcat gaataatttg gaaaagagag ccatatccat 7836  
 cttattaagg gacacattcc caataaattt tcatctttca tgtttaataa ttatcaatat 7896  
 tcataacatt ttacattttg atcaaatatg tgtaataat aatagaaatn nnnnnnnnnn 7956  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8016  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8076  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8136  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8196  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8256  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8316  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnattag atcttaatgc agaacaccct 8376  
 gaacatttaa agcttcatag tcacaagaga aaagtittca tttcaatagc tataaatatt 8436  
 ttgttgttgt aaagacatat aacgataatc aatacaaaat ctgtcaaaca aaaatatgtt 8496  
 acattaagat aaaattctgt aggggaaggtg aaattggaag tgagtttcaa tgaatgaaaa 8556  
 gaaacaattt agacagagaa gnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnncttagaa 8616  
 ggaattgaat agattaggtt ccttacccaa aaagcctctg ttatttgtct tatttattta 8676  
 ttctcttttt tccacattct ccagtctcat tccccttttt taacacagga aattattcca 8736  
 gcatgtttca tacatattct tttgtttgta agagcttatt taaaatatgt aatattgttt 8796  
 tagatgcata tatttttttt cttgtggaaa ctatattgta ctatatatat atattttaga 8856  
 aatggacaca ttannnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8916  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8976  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9036  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9096  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9156  
 nnnnnnnnnn nnnnnnnnnn nnt 9179

# FIG. 6A

tagatctcag ctttcttgag gcaggagacc atatctgttt aattcactca gcatatactg 60  
 caaagaagca gnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnta 120  
 gggagaagtg cagaataaat atacccaact ctttactatg tatagacatt atctaggtct 180  
 ttattttttt tctcttctta atctcaaaga aaacagagga aaggaggaag taaaaagtaa 240  
 atttttgcct gaagatgttt ggaaaaaata ccaaataaag tgagatagtg ggtaatctag 300  
 tgatttttat ttttccgtcc tctttctggc ctccaattgt gaaataattt atagcactgt 360  
 aagaaagaag ccacaaattg tggtagcttg gaccactggt gaggnnnnnn nnnnnnnnnn 420  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 480  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 540  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 600  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn acttaatat gatagtata attttattca 660  
 tttcacatgg catgaagtac caagctctat aggaatcaga aaataaagtc ttatttcttt 720  
 ttcttctcta ttgtcca gct tcc tac agg aaa ata aac act cac atc cta 770  
 Ala Ser Tyr Arg Lys Ile Asn Thr His Ile Leu 131  
 aag gtt cca gaa aca gat gag gta gag ctc acc tgc cag gct aca ggt 818  
 Lys Val Pro Glu Thr Asp Glu Val Glu Leu Thr Cys Gln Ala Thr Gly 147  
 tat cct ctg gca gaa gta tcc tgg cca aac gtc agc gtt cct gcc aac 866  
 Tyr Pro Leu Ala Glu Val Ser Trp Pro Asn Val Ser Val Pro Ala Asn 163  
 acc agc cac tcc agg acc cct gaa ggc ctc tac cag gtc acc agt gtt 914  
 Thr Ser His Ser Arg Thr Pro Glu Gly Leu Tyr Gln Val Thr Ser Val 179  
 ctg cgc cta aag cca ccc cct ggc aga aac ttc agc tgt gtg ttc tgg 962  
 Leu Arg Leu Lys Pro Pro Pro Gly Arg Asn Phe Ser Cys Val Phe Trp 195  
 aat act cac gtg agg gaa ctt act ttg gcc agc att gac ctt caa agt 1010  
 Asn Thr His Val Arg Glu Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser 211  
 aagagctgcc cccacttcct aggtctatca gttagggttc agacaagaaa cagatggcat 1070  
 actcgagtga tttgaggaga gtgtaataaa gggactgttt acaaagggtg gatcaccatt 1130  
 tggagaaact acaaaggata gtgcagaaca ctggggcttc aatggttgga gggcaattac 1190  
 cactgttgga gaagttactg gaatcagaag ggagctgtag ggaaagcccc acttcccagg 1250  
 agctgtagcc acagaatagg gaagctgcca catgcagcga ctccaaaggg tggaaactgg 1310  
 atgaatgaat accccaactc attctcctcc caccctccaa tctcctgcta gcacctccca 1370

## FIG. 6B

ttggctgaac ccagctagaa gtcagagaat acaaggggcc actgttgat tccataaaag 1430  
tcaacttctc agggctcaga gcaatattga catgtacaga atagatctgg agaggaaaca 1490  
gaaaatatct agtacaatag ctaatcactg tgattcatgc acagtgtcat gagccagcag 1550  
gatgaatatt cctttgctgt acttgctgcc agtcagctgg ttatggggtt ttccaagaaa 1610  
tttggtctct aacaaaattc ttcagagcct ttactgacta tgctggatat ttttgggaagg 1670  
gatcccatat ttttgaactt catacagcag aatttcaaac aatcttggga aaataacaac 1730  
ttttatctgc ccagtaagga caactaacac ctagtatcat aatcatttcg taagagacag 1790  
gtaatttcat caccgagtgc atat 1814

FIG. 6B

[illegible]

ctactgagaa gggatatact ctcagactaa aggacagtcc ctagtactga ttcaatctgg 60  
ctttatagaa aattcactat attgtcattg tatttcacag tttgcccttt gtcttagctg 120  
gtaagacaga gcctatgata aggacttgtg tggcatgcag gtatttaatt ggcaacccca 180  
gagggcagaa gcaagagatt taggagttta agagagggta atataagagt atattatcaa 240  
agttgtagtg tggacaacag aaactcaaat attcaaggac cagcatgtag acagcctcct 300  
aagatgtcta ctcagacaaa gaatttcagg tggaaggact tgttcatctg cttcacgccc 360  
attggttgac aggaatatga actocattct gctgctgggc tagacatgca tgtgggctga 420  
gtgagctttc ccagtatcc gtagcatcag aaaagtcgca gggcagaaag aaaagtatcc 480  
aatttgaggt gaattactga ccttgaagtg agtgtaagcc taactagaat tctaccccag 540  
ctggctgaag tgaaaggtga ggctgagagg aaataaggca ggactgcaca gtccccaatt 600  
gtactgttca aatccactca tgccttcat taagtcagct ctgccactga gccttcagc 660  
tgaggaggcag ccacaatctc tgcagaagat ttaatataca ccagtttgtg gaacaagctg 720  
tnnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 780  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 840  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 900  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 960  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1020  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1080  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1140  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1200  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1260  
nnnnnnnnnn nnnnnnnnacc tgcagcactg ggatagccct ggtacagacg tagaacatgc 1320  
ttgaggaggt tgtcaggagg aaatgagtta gaccttgcac agaactacca ccatcaagta 1380  
cagttggggg gaggcagaca tggtatgagt tgaggcatca gagatatctg atgctttatg 1440  
ccaaattaaa attaattttt tcatggagtg aactgatcc acagaccaga ctccaagaac 1500  
tttgcagtga ctaaataccc atctcatcat aactttcctg gtattttott ctggaaaaaa 1560  
ttcttccttg atacagtttt cagaggcagc tagatgcact gtcatctctc cccttttccc 1620

FIG. 7B

acttccctac ctatccacaa tttactaccc aatgccaaaca ctaaagttag cccaacttcc 1680  
 ttctaactaa attattagtt tagaaggaaa gagaggagtc atgctaagga tcttaactgn 1740  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1800  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1860  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1920  
 nnnnggggag aggaggggag aggaggtagg gaggggaaag aaagaaacta gaaatccatc 1980  
 aatttttagga ccaacttcag gtaaaaaaat gaattaggca agttggtctt tcaacattct 2040  
 ctacctctct ttatatcatg gttgagacca cagacttctc acctcatgaa agatgaactc 2100  
 taactaattc atactaaagc taaagcctct aaagaggatt aaatatgagc aatcccacga 2160  
 gaactttttt cccctggaat tgtttattca actgtcggtc gttatatgga atttctgccc 2220  
 tgggttaagt taggccagta ctttgatga attgtagttt tctagaaaga cgcttcttat 2280  
 ataagaacct ctccaggga acaggggcct gtatgagatg aattgagaaa taactttaca 2340  
 ccaactgatta tgtcagtgtt ctattctgca tggtagagat gtgaaagggc agactgacca 2400  
 ttgctctgga agcctttacg ctgtgagaag ttaacagtgg agtaaaatgg ccactccact 2460  
 ctcttcatgg aagccaacat ggcttactaa atagtcaaca accatgggag agacctgtgg 2520  
 ggtcttcatc agagctcagg atctcctagg gtatcactca taaatacagc catcagggag 2580  
 atggagaaat ctttgtgcag ccagaaattc tcaacctggt tttacccatc cttoccaaact 2640  
 ttgtattogt cctactgttt actgacatgg atcctctgct tcattaacca tcccttctc 2700  
 accacatgct ctctgaactt ggctgcacct tttctacctc catgccttct ttgctcaggt 2760  
 ttttccacat aaatatcatt atttccctct ctactagctc caagcccacc ctctctctgg 2820  
 ggcagctcag tcactccagg gcacaagggg gtctttccct catcccacat tttgagacct 2880  
 actacctgga ccatttggtt gccttgtaac tatgcttgcc tttttaattg ctattttatt 2940  
 ttccatgtat tttcattggt cacacaagtc ttctttattc cacactaagg caaaagcaga 3000  
 gtctgtgtt cataataagt gctcaacaaa tgttgggttg attgggttg agattccatc 3060  
 ttagataatc gcagtcccat catgccagct accagactgt gtggacagcc aggtcagagc 3120  
 agccaaatga tattctagct tgtggcacia ataccagcaa caaataacc aaagtcacac 3180  
 atctgcctct gagttcctgg cttctatttc tcaaggcat ttttaagttg tcttatgact 3240

FIG. 7B

# FIG. 7C

```

gttccctttc tactcattct cataaattga gctgtggact gctgtgaccc acaagcttct 3300
ccggaagtca atgtataaaa caaacacgga aacgaagagt atggtgggtg gaggggtactc 3360
cactgactct agaatggatg actgaacatt ccaaatttca agcacaagtt agggagcaac 3420
agatcatttt ccttttgaaa tagggtttct tctgctcagc cagttgttgt attttcatta 3480
ggaaatggaa tgggactaca gcacaaaaaa taaatataaa aggacccttg tagggctggc 3540
agaaaagaga atccttccta ggagacctgg aggtgattcc aggcnnnnnn nnnnnnnnnn 3600
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3660
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3720
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3780
nnntcagaaa gtgtgcaaac agtaaaaaaa aatggtatat ctagcaagtt gcatgcctta 3840
cttgtgagtt catgaagttg tggcaaggat aagacaaata ttttttgcca ttgcatcatt 3900
atatcattgc taagagtatg ccattattnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3960
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4020
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4080
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4140
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4200
nnnnnnnnnn nnnnnnnnnn nnnnttaatt aattaaatta aagaaacgac aaaagagtat 4260
gcaagaattt taaaacaact tagaggaata tgtatgagga tacaggctaa gctaccataa 4320
tgaagagacc tcgaaataca gtgagaagcg agacagaagt atctttcggt ccatgtaaca 4380
ctcaggtggt tcagagcagc taagcagcta tgttccatag agtcattcag tgatccagat 4440
tattttcatc tgttgctctg ccattctcca ggatgttgct cctataaaat tgtcaaagct 4500
cagtcagtg ccaacccatg tttcaacctt cagaaagtaa acgagtggtg gaaaacacat 4560
tcaatgtttt aaggccaaga ccttgaaaac tcactctctt agcctgaact tagattacat 4620
ggctgggccc acttaactat aggggaggct tggaaacata gtctctgaga agccatgtgt 4680
ccagctaatt ccctaatact aaagttgaaa gaaagaatgg attaaccagc agtataccac 4740
aaggtaacaa atgactagga ggatcaggct aggtggacta gaaaagagac agtcaattca 4800
gtgcaacaat tccatattga cacttttcat gtagctgttg cttggctcta tctagagagg 4860

```

# FIG. 7D

actcagaggt agttagata aggcctttgc cctccaaata cagtctaagc agactgattt 4920  
cctactggat gttcaacttt ggagtcttca gggatgagta gggcttctgt acgtggaaga 4980  
gactatgagg gaacctgcac aggacaaggg tttgcataaa gacactgagg tagggacctc 5040  
tcctgttggt gggacagtga gaggcccagg tctccttgac tcacaaagtg cttactaagc 5100  
acttactaga aattaagaag cagattataa tcaatatggg ttatccaatg tttggatgag 5160  
caaggctcct tatcttttct tcgttaatgt taatcacact cttttggatg gagacaaata 5220  
tctgtggggg ctntnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 5280  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 5340  
nnnnnnnnnn nnggctcaga ctaaataatg tctaactctt tctccagtaa aacaatccgt 5400  
ggttctcaga tagcactgtg ctggaggtag tggggtttga gggctgggaa gttgggagga 5460  
ctgagccctt cccgctgagc agtttctgtc agtttttctt gtaccagcct gtcagtgtta 5520  
ttccatgtga atgactccag aggcaaaatt caagcttttg aatagggcac aaattaactt 5580  
gagtaccctt tcatttccct gtaggtgaac actcctctag cctgccttt tgtcagtctg 5640  
gagcccttgt tctaactctg acacaccaga ggactttaca aggctttccc cagcctccag 5700  
aattattctt ctgatccacc ctctactaaa ctcacccttt cctcagtgtt aggacgttga 5760  
aaaaccgaaa caaggcaaag ggccaattgt aataattcac actaaggcat gagtgactag 5820  
gtttagtata ttaacactac ctaggatatt ctatttcttc caaaaggatc ctgttaatcc 5880  
ttgaaattta acaactaatg gtatagattc taagcactgt gagtacttgt cagtggggga 5940  
aagacatttt tgggctgaga gactttgcca ctgnnnnnnn nnnnnnnnnn nnnnnnnnnn 6000  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn aagaaagatg attagatnnn nnnnnnnnnn 6060  
nnnnnnnnnn nnnaaaaaat aacatgagag nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6120  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6180  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6240  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6300  
nnnnnncaca gagctagccg tgttggtgt caccactca tgtggccagc ctgttggtct 6360  
acctcttagt tgccatgtaa caggattctg gtgcttttcc ttgcccagg t cag atg 6417  
Gln Met 213

FIG. 7D

# FIG. 7E

gaa ccc agg acc cat cca act tgg ctg ctt cac att ttc atc ccc tcc 6465  
 Glu Pro Arg Thr His Pro Thr Trp Leu Leu His Ile Phe Ile Pro Ser 229  
  
 tgc atc att gct ttc att ttc ata gcc aca gtg ata gcc cta aga aaa 6513  
 Cys Ile Ile Ala Phe Ile Phe Ile Ala Thr Val Ile Ala Leu Arg Lys 245  
  
 caa ctc tgt caa aag ctg tat tct tca aaa ggtaagtga ttttattcat 6563  
 Gln Leu Cys Gln Lys Leu Tyr Ser Ser Lys 255  
  
 ggtaacccaa tgcactgggt gtctgcagca tgagccactg ctttgcactg caggcctatg 6623  
 gcttgctgct ttcattgctaa acccactcag agcttatgaa ccactttgag cttgtcttga 6683  
 tgattatattt tccccagaag aaaatggctc tcatcgctcag tgagctgaac ttcttacact 6743  
 gagtttttta aagggaatgt tttgttctta tgtctgaaag agtttgtctt attctttgag 6803  
 ccaagagctt tcatcagcct catgagagtgt atgttatattt ggcaatgcag agagctacgt 6863  
 gctccgattt tgctgggtggg aggttgccag gatcctttct gaggattcct tccattttca 6923  
 cccctctttt cccagctctg gatatgacct gggtaaacc cccccctct cccaggaatc 6983  
 tcaacctcac ggttgggtaa ggaaaggaga aaggtttgtg aggccatttg gggataagga 7043  
 aacagctgggt tgggtgggtgca ttaacgtctt tcagcagctc ccttcgagtt tctccttagc 7103  
 ctgttggtatt cttaaccaaca cactcctgtt ctgttggtacc agctgggaca gagcatgctg 7163  
 aagcctttca gccctgattt cattgcttca ttgttcatgt gtctgtcttt ggtttcctgg 7223  
 gtggagcctg cccacaaaac cccagaatg tatgcaggcc tagctggtgc tttcctaaac 7283  
 ggctcccttg tctgcactca atgaacttct ccaaagatct atacatggcc tcatctatag 7343  
 aaagagaaat gacatgtgga aataattcag taggagtttg cagcagcact atctgaggac 7403  
 taggggaatt ttaagtgggt gttatcttac atttatactc ataacttcta tattttcatc 7463  
 tgccataaaa tattgtcatg ttctatttgt ccattgccct atgtgtgtat gtattcactt 7523  
 ggggtgctgac cacaatatatt ctaactgtag aatgcaagga attgttgcca aannnnnnnn 7583  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7643  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnncttca tggtaaagga 7703  
 ggaggtatgt ccaacagaac ttcgactttt aatagaacc acttcagaga gttgtgtcag 7763  
 gtgcacctca gttgtcttat ctcttgccat tcttctttta cctctcacac ccataacctca 7823  
 gggttcaagg cctggggcct gaggactcct taataacttc agaaatgagc agctgagtgt 7883

FIG. 7E



FIG. 7F

tccgttccag ctgtcttttg gagaatggaa tggagtcaca ctcaaagata gaggggaaat 7943  
 aaatcctctc ctcatccttc accccaatct taagagttag tgaggatatc agtagctccg 8003  
 agctgggagg taaagctcaa gttctaactg tgattaggag acctttctta caaataagaa 8063  
 ttaagtgaat aaatgtgcaa acaatttctt ttatatTTTT aatgaaccag agagaaatca 8123  
 tggttgccta tataaccctt gtctccaact cacttgcatt cagatctgct ttcttacatg 8183  
 tgtctgccat gcacacaaac ttgtgtgcca tggaaaaggg ttgagaactg ctggtgatgc 8243  
 agacagagct ttaaannnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8303  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8363  
 nnnnngcagc aagagaagga acattttaca gcttattggc cgaacttcac tgccgctagt 8423  
 gtggttcaac ttggactaca gagaaatctt cctaactggg ttccctgtat tcaactctgc 8483  
 tacctccaac ttggtctggt ctcaactttt gctataatag gcttttaaaa atcataaatc 8543  
 taccatgtgt cctctgtcca gaccttctcc atggcttctt attgctcact ggatgaagtt 8603  
 ccaacgagcc caggatgggt tgactcatgt ctccagcttt aactgcatca ccatcacctt 8663  
 cattgtctaa agctctaacc acacaggatt ttctagtcct cagaggcatg gcagtctttc 8723  
 aattccgagt tttctcatac aatattgtct cttcttaaaa tattttttct tgttgtccac 8783  
 ctgagttgga gtcacttttt aaatctcagc taagcttata cttcatcaag tcttttctaa 8843  
 ttctacctcc acgcaccaca ccattacat taaatcccct tattatatgt ttccatagca 8903  
 cctactttct tcttttcagt atactcagca cacaatcaca tgtctaggat ctgttttaat 8963  
 agcttggact accaattaaa ttgcatoctt ttttaattgt cattgattcc tcaagtaccc 9023  
 acatgcccac cttagcaaga agttcagtgt ctccctctta tagcatgtac ttctccacct 9083  
 cccacaaact gccagaaagc ttacttagcc cacagggcca gtgctaggca gctagggttag 9143  
 tctccagag ggccctgggt ttgagcagtt gctgtctact ccggccatgc agaattctctg 9203  
 gtcttccag atgtctccat ccactgtgca aaggtaacct tgctgggtcc gatccccaca 9263  
 cagaccacag tgctacaaga ttacagttct tatggttccc caacacatgc tctgtcattg 9323  
 gtcccaaagc aggacccta tgggttgatg aggtaggagg aggtccctgc cttagccaca 9383  
 gctgcacaca gccagcctct tcccttctag gccctcatgt tgagcctggg acgccagtcc 9443  
 taacttcctt ctcttcagtt cctcttaggg ccattgggtat cctgaatttc ttagtccatt 9503

FIG. 7F "cccccccc"

FIG. 7G

gcaaagttaa gtaaagaagc agcaggcttg gtccctttcc ttccagatgg cttcttagct 9563  
cctgaacaga tttacccacc tatacctcag tgactagctc tgtgtactaa agtgtattgg 9623  
gagggcagcc attattggtc cataaaaggt cctgcttacc attttcccct aagaggaacc 9683  
attcaacagt ttggggctcg aggggtgacct gctgggctct agagaagaag ctggcaactt 9743  
ctgttgcaaa ataatgttaa attctgcttc atctgcttgt cttnnnnnnn nnnnnnnnnn 9803  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9863  
nnnnnnnnnn nnnnnnnnnn nntaaacatt gaacctacta tatgcaggty agtatgctag 9923  
atnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9983  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10043  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10103  
nnnnnnntgn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10163  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10223  
nnnnnnnnnn nnnnnnnnga tttgaataca ggtctgtttg actccaaaac ttgtggccta 10283  
tttgttgcaa aagtgcctaa taaaaattgg ttcagtcaat attattatct ttgaacaatg 10343  
gaaggagaaa gtaagtttca atccaaaata attgagtgc ttatacattg acttgctgag 10403  
ccaatggcaa agtcaagtta gaatccagca gaagtcacca gctacagaat ctagatcttt 10463  
agaacatgtc ttcagatctt cagaacagtg tttcttaaac tctcttgtga aggaacagtt 10523  
atcatcatag gctggttaaca gtccacctac cagcaccagc ccatgaacca gactctaagt 10583  
ggcacagccc tagaagattg agccagaatt ttacagaggt ttaaagacca aatatgctgg 10643  
tttatgggta cctgtggccc acagagaatg gcagcactaa cctcaggcat aaatgaggta 10703  
cccactgaag ccaacattca agagcaattc ctatgggta accattgggc tcctttcaaa 10763  
tgcaaaccct catgaaagag actacagtgc tgaatagaga cctccaaatt ccaggccaag 10823  
ctcaggatag tcatgaggga attactaaaa acctgtata tagggcaaaa gcagaattag 10883  
gaatggactg atttcaggaa ccagggaat ggcaggagt gggcattaaa tcctaaaaga 10943  
gaatcagagt gggagggaat atgtgaaatc agaggttaag aaaaaagtga aaacctnnnn 11003  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11063  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11123



# FIG. 7I

```

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12723
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12783
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12843
nggcaccaag agatgagggg ggcagtcttg gccatatatt tggctgaagt aagtcaattt 12903
gtcattcctg catgagcctt tataaacaga agtaagtaac caactactat ttgggtcattg 12963
gagttgtcca agaggccagg gttctgtcta atacctgttc atgcatgaac atgccaacct 13023
agattgcatg cagactacca gttttgggtt tttgtttagt tcagcaggat ttttctcagc 13083
tcaactgcctc tcaaactttc agcaacaaaa ggacatctgt gatatcagaa tctaccactc 13143
taagtatttg gatgcaatag caatgaatat ctgagtaaatt ctaggtgggg agtgggggca 13203
ccctgtagcc aaaatgattt aacaaaatca aacaaaatt ttggaaatga tgccttggtg 13263
caatgaagag actacttgag gtaggtttga cttatctaatt atcttatttt ctttaccatt 13323
acctaattgag gaatttaaatt atttctagat agctttggaa aggtccctta aagaggcacc 13383
agcataccac tgccagatct aatcccccca aacactgttt tcatcatcat catgtcatct 13443
cttgtctcta tagatcatat caaatccttc ccagagtttt tcaggccttt tgacaactag 13503
ccacatttca ctaagccaac tcatctacca ctcttcaaca aaacttttcc tcaagttgag 13563
ctgtccacc aacaccactg ccattgagctc attcccactt ctgtggcttt gctcatgttg 13623
gttatttttt tggagtgtcc tccctattcc ttcttacttg tcccaatccc aacttttggc 13683
atggtctact ttaagataca gtaatgagta actttannnn nnnnnnnnnn nnnnnnnnnn 13743
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13803
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13863
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13923
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn tttttaaaat ttaattcaan 13983
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14043
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14103
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14163
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14223
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nntacataca 14283

```

# FIG. 7J

caacactctc ttgcttaatc tgtaagactc tctccccac tcataccttt ttatttttcc 14343  
 tctgcattgt acacacaatc tataccactc ttaagcacat gattacagcg ttattttctg 14403  
 gctgcttcta tgtgtctata ttttaggtcc acctgggtcaa tataataaag tgggatatta 14463  
 gtgttaatgc aactatatgg tatttgatat ttgtctttct gtccgtttat caatgtttct 14523  
 tatagnnnnn nnnnnnnnnn nnnnnnnngg tgtctgattt tgaccaaatt tgactaaata 14583  
 cnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnngt tgagtctatc aactcaaaaa 14643  
 agaataacct acaacaataa caagtttcag aacatttttt aaattactga ttttatgagn 14703  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnngaatt ccattgccta 14763  
 gaaattgcc a tggtaagat tttaatattg ctcaggccca gacagctcag ggctttgaca 14823  
 ttcccacacc cattctctgc catccagtt ctatctcatc ccaaaaccat ccattatgag 14883  
 gagagtgtac agctctaggc tgcccgggag ccattcccgca ctctcatttt gtgactcggc 14943  
 atcttgggag atggagtctt gggacttagc ctggacatgt ccottgcatg tacttcttac 15003  
 aagactttta ttcagatgaa tattttccct tccaacttaa gaagcacagg gcttgctggt 15063  
 tttgcttcac taaccagcaa ctgaagcaag acctgacttg tgaaaatgcc taatagagtt 15123  
 cagtattage gctgtttcac catttctctg atctcttgcc tttgtgcaca tgatagaatt 15183  
 gcacttctct gtgattaatt tgtagttaag tgtggtcatg taactcgctt tggtaatta 15243  
 aatgtaagca taagtgatgc gtgttatttc tgggtagaag atgtaagagt tggcatatgc 15303  
 tttgccatat tttctttatc catctggcat ggtaaccagt aacattctag gtagtaattg 15363  
 ctccatcagt ctcagtctct gagtgactaa aattgacaga gtccctgct gaccotcaat 15423  
 gtacatggaa catgaacaag aataagcttt tgttttttat attgagattt tggagttggt 15483  
 tgttcttaca gcattaccta gtttactcta atacaacatg gaaaaaactg gaacctataa 15543  
 taaatagacc ctacgttgcc atttaaactt ctagttctga ggaataataa tgtggggaaa 15603  
 tactttctat ataataaaaa aatagaaaat tgcaaaataa aaatatactt atgtatcatt 15663  
 catgtcctat taaaaatggt atttatagac tcaccatatt cccttctcc agaaaaatag 15723  
 aagtaaaaat atgaaaatgc ctgtaatcat gtttttggat tatggaatca agtattgctt 15783  
 tttactttta tgttttctga atttttgttg tacttcaacta catttttgag tgccctgatg 15843  
 tattactttc aaaaagaaga agaatacttt ctgaagccat ttcaaccatc cccactcacc 15903

T  
O  
T  
A  
L  
S  
E  
Q  
U  
E  
N  
C  
E  
S

[illegible]

tctctagatc	ccagtaacca	aatacattat	ataggactct	tcatcagtc	ttatcaagtt	15963
taggaagggc	gatgctatac	cttcttttaa	ggacacctac	caatgtctta	gttgcccttc	16023
aaagactcct	agcacagcta	aatgtgatgg	atatgtctta	aggatataag	agctgaagtg	16083
acttgcataa	ggtcatatca	taacttactg	ttagaaatgg	agctagaact	cagaccact	16143
gagtccttgt	ctgtgacaca	ctgcccttcc	catttgtgga	agttgttctt	gtatctaact	16203
ttatctgtgc	tactatttgg	gcctagccat	tctccctctt	atgcagacaa	gcagataaac	16263
agtaaaactt	taggagtgga	ttatgatacc	atagatatat	atcatctatc	ctttacaaaa	16323
tagttattac	agtcatcaag	ccttggttag	agtttacaga	ccatgtatcc	tagctannnn	16383
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnntgaaaca	16443
gtagcagacc	aaaagaagtc	atgattccca	gcatagtgct	nnnnnnnnnn	nnnnnnnnnn	16503
nnnnnnnnnn	nnnnaaacct	gtattaagtt	tctgttattt	gcaagacct	gtcagttagg	16563
ccatgtggga	actagaagga	tgaatttatc	agtcaccaa	gattcttaca	attaagtatt	16623
accgataagg	tactcaagaa	acagttctca	ttcacataat	ttgggttaaa	acaaaaagaa	16683
gccagcttcc	tatatacttt	tggtccagtc	tttacgtttt	ttgttttggt	ttgtttgttt	16743
tcatgagtat	cccgaacttc	ttctaagaac	ttccacctga	gaactgacca	cagcgtcagc	16803
attccacatg	ggtgtgttcc	ctttccctct	tcccatttca	gtggtttcca	atttcttttt	16863
cttttggcac	tataaacctt	tcgcaaagga	aatattagac	agaactccta	catgtcaagc	16923
aaattaaaat	agtggtgaaa	ttagagtgga	ggacataatc	accctatcat	ataggctatt	16983
tgtccatata	atatttgtcc	ctacaaaggc	ctctaaggnn	nnnnnnnnnn	nnnnnnnnnn	17043
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	17103
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	17163
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	17223
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	17283
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	17343
nnnnnnnnnn	nnnnnnnnnn	nnnctctaag	ataccttgtg	cttcttgga	catatttgga	17403
aatcatgta	gctctcaa	tatccctatg	tcctgaagcc	caccttacca	tcaatcctca	17463
gaaataccca	acccatgtca	ggcaacttca	cactttcttt	cttcaggcag	cacagttgtc	17523

[illegible]

Ile

## FIG. 7M

cctcaagttt tctaagtgat ttccaaaagc agaggtgtgt ggaaatttcc agtaacagaa 19141  
acagatgggt tgccaataga gttatTTTTT atctatagct tcctctgggt actagaagag 19201  
gctattgaga ctatga 19217

19141  
19201  
19217



FIG. 8

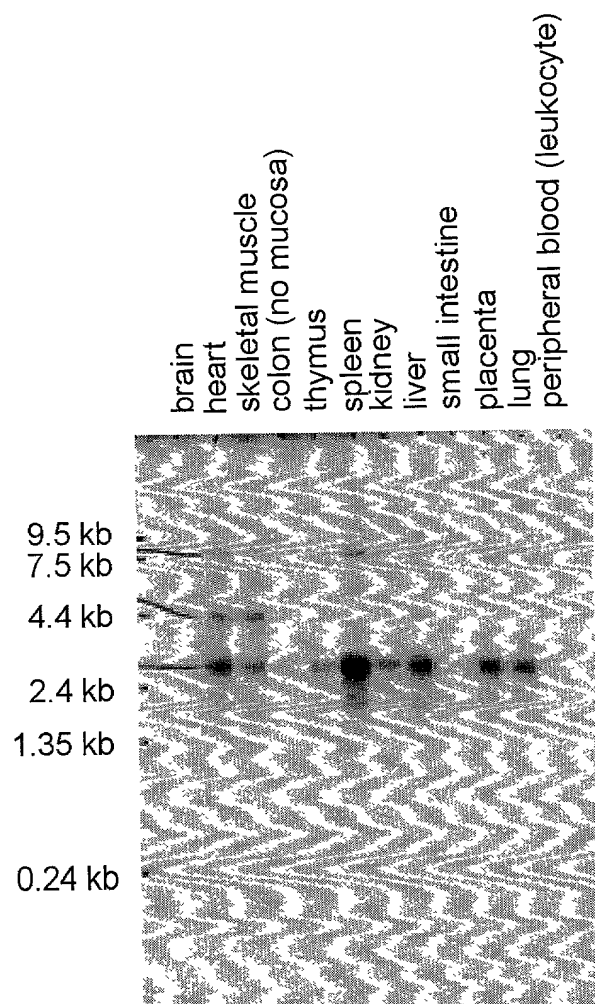


FIG. 9

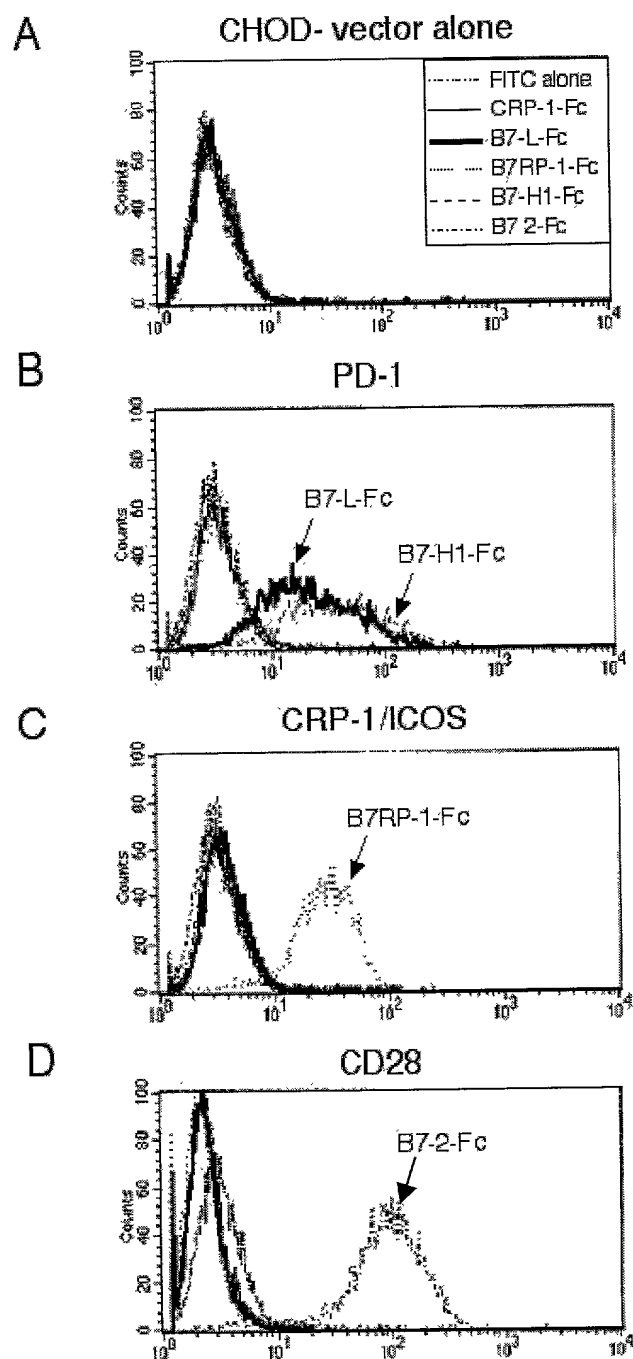


FIG. 10

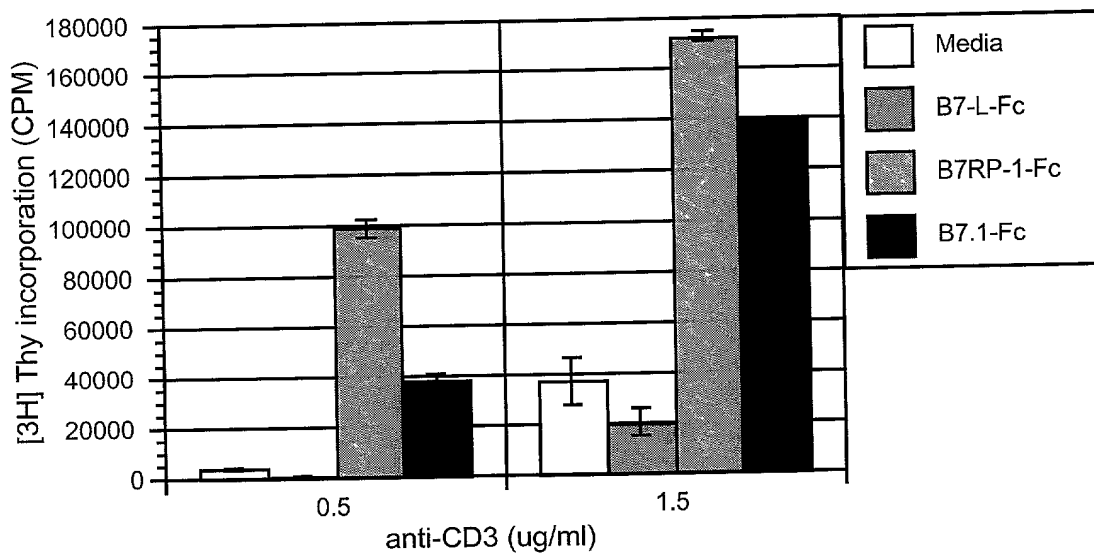


FIG. 11

